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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,931	12/12/2005	Bernd Karl Friedrich Kremer	18724.008	9467

28381 7590 07/21/2009

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EXAMINER	
JUEDES, AMY E	
ART UNIT	**PAPER NUMBER**
1644	

MAIL DATE	DELIVERY MODE
07/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,931	KREMER ET AL.	
	Examiner	Art Unit	
	AMY E. JUEDES	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51,52 and 74-106* is/are pending in the application.

4a) Of the above claim(s) *78-83* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *51,52,74-77 and 84-106* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/27/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and remarks, filed 4/27/09, are acknowledged.
Claims 51, 79-80, 90, 93-95, 97-99, and 104-105 have been amended.
Claim 106 has been added.
Claims 51-52 and 74-106 are pending.

2. Claims 78-83 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
Claims 51-52, 74-77, and 84-106 are being acted upon.

3. The rejection of the claims under 35 U.S.C. 112 first paragraph for lack of written description is withdrawn, in part, in view of Applicant's amendment. Applicant's arguments relevant to the portion of the rejection that is maintained will be addressed below.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:
> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 91-92 stand rejected under 35 U.S.C. 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This is a new matter rejection.

As set forth previously, The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A) A method for the suppression of transplant rejection comprising administering a transplant acceptance inducing cell preparation, wherein said cell preparation comprises a multitude of transplant acceptance inducing cells "equal in number to a multitude of said regulatory T lymphocytes", and wherein said multitude of said regulatory T

lymphocytes are in a quantity of "at least 1 x 10^5 cells/ml" (Claims 91-92).

Regarding A), the specification on pages 31-32 discloses the transplant inducing cells of the invention can be used in vitro to expand regulatory T lymphocytes by co-culturing equal numbers of transplant inducing cells and lymphocytes (including a quantity of at least 1 x 10^5 cell/ml of said lymphocytes). The specification discloses that the co-culture results in the expansion of CD4+CD25+ T lymphocytes, and that the cells can be administered to a recipient leading to transplant acceptance. The specification does not disclose administering a cell preparation comprising an equal number of **regulatory T cells** and transplant acceptance inducing cells, or administering 1 x 10^5 **regulatory T cells** per ml, as recited in claims 91-92. Rather the specification discloses culturing transplant acceptance inducing cells with an equal number of **lymphocytes** in vitro (including 1 x 10^5 **lymphocytes**/ml).

Applicant's arguments filed 4/27/09 have been fully considered, but they are not persuasive.

Applicant argues that the amendment to claim 90 overcomes the rejection, since the specification discloses administering a cell composition comprising CD4+CD25+ regulatory T cells. The specification discloses administering cell compositions comprising a lymphocyte co-cultivated with a transplant acceptance inducing cell, and that said co-cultivation results in the induction of CD4+CD25+ regulatory T cells within the lymphocyte population (i.e. the method of claim 90). However, the specification does not disclose any specific details pertaining to the exact amount of administered CD4+CD25+ T cells in the cell population. While the specification discloses culturing transplant acceptance inducing cells with an equal number (including 1 x10^5) of **lymphocytes**, this is entirely different than administering said amount of CD4+CD25+ regulatory T cells in the cell preparation. In fact, the specification discloses that culturing lymphocytes with transplant acceptance inducing cells results in only a small percentage (8.7%) of the lymphocytes becoming CD4+CD25+ cells (see page 62). Thus, a disclosure of co-cultivating transplant acceptance inducing cells with an equal number of lymphocytes for administration does not provide support for administering a cell preparation comprising an equal number of transplant acceptance inducing cells and CD4+CD25+ regulatory T cells, as claimed.

6. Claims 76-77 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As set forth previously, It is apparent that "GM-7" hybridoma cell line of DSM Accession No. ACC2542 is required to practice the claimed invention. As a required element, it must be known and readily available to the public or obtainable by a repeatable method set forth in the specification. If it is not so obtainable or available, the enablement requirements of 35 U.S.C. 112, first paragraph, may be satisfied by a deposit of the pertinent cell lines. See 37 CFR 1.801-1.809. In addition to the conditions under the Budapest Treaty, Applicant is required to assure that all restrictions imposed by the depositor on the availability to the public of the deposited material will be irrevocably removed upon the granting of a patent in U.S. patent applications (see 37 CFR 1.808 (a)(2) and MPEP 2410-2410.01).

Applicant's arguments filed 4/27/09 have been fully considered, but they are not persuasive.

Applicant argues that the GM-7 antibody is not essential to practice the method of claims 76-77.

Claims 76-77 are drawn to a method of administering a transplant inducing cell capable of binding to the GM-7 antibody. The specification discloses that this encompasses purifying cultured populations of transplant inducing cells by selection with the GM-7 antibody (see page 29). Thus, the GM-7 antibody is required to practice the full scope of the method of claims 76-77.

Applicant further argues that the deposit requirement has been met by amending the specification to include the complete name and address of the depository as well as the date of the deposit. Applicant has further supplied the certificate of deposit and has indicated that the cell line was deposited according to the Budapest treaty.

Applicant's amendment to the specification and deposit certificate are satisfactory. However, Applicant has not provided assurances as to the availability of the deposited material, as noted above.

7. Claims 51-52, 74-77, and 84-105 stand rejected, and claim 106 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for:

a method for the suppression of transplant rejection reactions to a donor transplant in a subject comprising administering a CD3+CD14+ transplant acceptance-

inducing cell of donor origin to said subject, wherein the cell is obtained by a process comprising obtaining monocyte and lymphocytes cells, or monocyte, lymphocyte and granulocyte cells from the donor, multiplying said cells with M-CSF, followed by cultivating the cells with gamma-IFN, and a method for the suppression of transplant rejection reactions to a donor transplant in a subject comprising administering a transplant acceptance-inducing cell of donor origin to said subject, wherein the cell is obtained by a process comprising obtaining monocyte and lymphocytes cells, or monocyte, lymphocyte and granulocyte cells from the donor, multiplying said cells with M-CSF, followed by cultivating the cells with gamma-IFN,
does not reasonably provide enablement for:

a method for the suppression of transplant rejection reactions in a subject comprising administering a transplant acceptance induce cell derived from a donor that has CD3 antigen and a CD14 antigen on the cell surface, and a method for the suppression of transplant rejection reactions in a subject comprising administering a CD3+CD14+ transplant acceptance-inducing cell or a tranplant inducing cell, wherein the cell is obtained by a process comprising obtaining a monocyte, a lymphocyte and a granulocyte form the blood of said subject.

As set forth previously, The specification disclosure is insufficient to enable one skilled in the art to practice the invention as claimed without an undue amount of experimentation. Undue experimentation must be considered in light of factors including: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill in the art, the level of predictability of the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention, *in re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988).

"The amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art." *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling (MPEP 2164.03)" The MPEP further states that physiological activity can be considered inherently unpredictable.

The instant claims are drawn to a method for the suppression of transplant rejection reactions in a subject comprising administering a transplant acceptance-inducing cell. The instant claims do not require that the transplant

acceptance inducing cell be derived from the donor of the transplant. The claims encompass administering any type of cell (for example a cell from a third party donor). However, the instant specification on page 42 demonstrates that suppression of transplant rejection requires the administration of cells from the donor of the transplanted tissue, since no suppression is seen when cells of a third party donor are administered. Thus, it is apparent that the method of the claims only functions to suppress a donor transplant rejection in a subject after administration of a transplant acceptance-inducing cell from said donor.

It is known that antigen presenting cells can acquire CD3/TCR complexes via transfer from T cells during co-culture (see Busch et al., 2008). The transfer of CD3 from T cells results in the detection of CD3+ APCs by FACS analysis. Thus, it appears likely that the CD3 monocytes described by the instant specification are in fact CD3+ monocytes that have acquired CD3/TCR complexes by co-culture with T cells. In fact, the instant specification demonstrates in Example 11 that the expression of CD3 by the monocytic transplantation acceptance inducing cells requires the presence of lymphocytes (i.e. T cells) during the cytokine culture. This further supports the notion that the CD3 "expression" by the monocytic transplant acceptance inducing cells is actually acquired by transfer from T cells present in the co-culture. Thus, given the ability of APCs to acquire CD3 from T cells during co-culture, it is likely that the acquisition of CD3 depends on the presence of lymphocytes in the co-culture, but not on the particular cytokine combination used to stimulate the cells. Thus, CD3+CD14+ cells might be generated using other cytokine combinations by co-culture with lymphocytes.

Additionally, the generation of monocytes or macrophages capable of suppressing an immune response is unpredictable and highly dependent on the cell culture conditions employed. For example, culture with certain cytokines results in the ability of macrophages or monocytes to support antigen-specific T cell responses, while other cytokines induce macrophages/monocytes that suppress T cells (see Mahnke et al., 2007, page 8). Furthermore, the phenotype and function of macrophages/monocytes is also affected by interaction with other cell types, including T cells (See Mahnke et al., 2007, page 8). In fact, even the effect of -IFN in combination with M-CSF (as recited in the instant claims) on monocytic cells is highly unpredictable depending on the timing of cytokine culture. For example, monocytic cells cultured with M-CSF can suppress alloantigen specific T cells in vitro, but that effect is abrogated if IFN is added simultaneously with the M-CSF during the culture (see Munn et al., 1996, of record, page 530 in particular). However, IFN does not abrogate the suppressive effect of the monocytic cells if it is added after the M-CSF cultures have already been established (see page 530 in particular). Thus, the generation of cells capable of suppressing transplant rejection reactions is unpredictable, and is highly dependent on the particular culture conditions used. Furthermore, given the fact that monocytic cells might acquire CD3 from T-cells during co-culture, it is highly unpredictable whether any CD3+CD14+ cells (i.e. even those made by methods not involving culture with M-CSF and -IFN) would function to suppress transplantation rejection reactions. Given said unpredictability, the instant specification must provide a sufficient and enabling disclosure commensurate in scope with the instant claims.

The instant specification demonstrates that donor peripheral blood mononuclear cells comprising monocytes and lymphocytes cultured with M-CSF, followed by IFN, are able to suppress the rejection of a tissue from said donor after administration. The instant specification further demonstrates that a proportion (up to 40%) of the MCS/IFN cultured cells are CD3+CD14+ as determined by FACS analysis. The specification does not demonstrate that these cells are responsible for suppressing transplant rejection in vivo, nor does the specification provide evidence that any CD3+CD14+ cell (for example, those derived by transfer of CD3 onto monocytes in a co-culture with T cells in the

absence of M-CSF/IFN) are capable of suppressing transplant rejection. Thus, the teachings of the specification are not commensurate in scope with the instant claims, which encompass suppressing transplant rejection with any CD14 and CD3 expressing cell (and not just a donor derived CD14+CD3+ cell population produced by culturing monocytes and lymphocytes with M-CSF followed by IFN, as disclosed by the specification).

Applicant's arguments filed 4/27/09 have been fully considered, but they are not persuasive.

Applicant argues that the amendment to the claims to specify that the transplant acceptance inducing cell is derived from a donor obviates the rejection.

The amendment to the claims specifies that the transplant acceptance inducing cell be derived from "a donor". The claim does not limit the source of the cells to those derived from the donor of the transplant. For example, the claims encompass administering a transplant inducing cell from a donor unrelated to the transplant donor. Furthermore, dependent claims 93-94 specify that the starting population for obtaining the transplant acceptance inducing cell is the subject to be treated. Thus, the recitation of "a donor" in claim 51 appears to encompass obtaining the transplant inducing cell from the subject who is the recipient of a transplant. Therefore, the claims are not limited to administration of cells from the donor of a transplant. Additionally, the specification demonstrates on page 42 that the transplant inducing cell only functions to suppress transplant rejection if it is derived from the donor of the transplant. Thus, Applicant's amendment is not sufficient to overcome the rejection.

Applicant further argues that the amendment to the claims to further limit the method by which the transplant inducing cells are produced obviates the rejection.

Applicant's amendment to claims 94 and 99 is sufficient to overcome the rejection in part (excluding the limitation of obtaining the cells from the subject to be treated, as noted above). However, claim 51 still encompass suppressing transplant rejection with any cell that has CD3 and CD14 on the cell surface. As noted above, CD3 is known to be acquired from T cells by APCs during the normal interaction of these cells in culture (see Busch et al., 2008). Furthermore, the instant specification teaches in Example 11 that reducing the number of lymphocytes (i.e. T cells) present in the cultures results in a corresponding decrease in the number of CD3+ monocytes produced, which is consistent with the notion that CD3 is being acquired from T cells in

the cultures. Thus, based on the state of the art and the teachings of the instant specification, it appears that the expression of CD3 by APCs (such as CD14+ cells) is not dependent on the particular cytokines used in a culture, but rather is a function of T cell/APC interaction. Thus, CD3 might be expected to be acquired by CD14+ APCs in any number of different co-culture situations. However, as demonstrated by the instant specification and the prior art, the ability to produce a CD14+ cell capable of suppressing transplant rejection is unpredictable, and highly dependent on the particular cytokine combination used in the culture (i.e. suppression requires culture of the cells in M-CSF, followed by IFN-gamma). Thus, based on the unpredictability of the art and the lack of guidance by the instant specification, the specification is not enabled for suppressing transplant rejection with any cell that has CD3 and CD14 on the cell surface, as broadly recited in claim 51.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 51-52, 74-77, and 84-105 stand provisionally rejected, and claim 106 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 54, 73, 78-81, 88-90, and 92-99 of copending Application No. 10/563,956 in view of WO 02/056830.

As set forth previously, The '956 application claims a method of preventing or treating a disease associated with disturbed self-tolerance in a patient comprising administering to said patient cell of monocytic origin that expresses CD3 and CD14. Furthermore, the '956 application claims that the monocytic cell can be made by culturing a monocyte with M-CSF and gamma-IFN, that the cells are of human origin, that the cells express GM-7 antigen, and that the administered cell population comprises a lymphocyte, including a CD4+CD25+ regulatory T cell. The '956 application also claims administering the cells at the same concentrations and in the same solutions of the instant claims. Additionally, the '956 application claims the same concentrations of M-CSF and IFN-gamma for making the cells as that of the instant claims. Additionally, the '956 application claims that the method is useful for treating disease with disturbed self-tolerance, including autoimmune disease. As taught by WO 03/056830 monocyte derived cells that are capable of inducing tolerance are applicable for the treatment of diseases including autoimmune disease or transplantation rejection (see page 4 and 8 in particular). Therefore, it would have been obvious to treat transplantation rejection as the disease associated with disturbed self tolerance in the method claimed in the '956 application, since WO 02/056830 teaches that monocyte derived cells capable of inducing tolerance are useful for treating both autoimmune disease and transplantation rejection. Additionally, WO 02/056830 teaches the induction of antigen specific tolerance toward an antigen presented by a tolerance inducing cell (see page 14 in particular). Thus, it would have been obvious to use a tolerance inducing cell derived from the transplantation donor (including an allogeneic or xenogeneic cell), since donor derived cells would present alloantigens for tolerance induction. Additionally, it would have been obvious and routine to administer the cells before or after transplantation, since WO 02/056830 also teaches that the cells can be administered before or after transplantation to induce tolerance (see page 3-4 and 12 in particular).

This is a provisional obviousness-type double patenting rejection.

Applicant's arguments filed 4/27/09 have been fully considered, but they are not persuasive.

Applicant argues that transplant inducing cells of the instant claims are allogeneic to the patient to be treated, while self tolerance inducing cells claimed in the '956 application are autologous.

The claims of the '956 application are not limited to the use of autologous cells, nor are the instant claims limited to the use of allogenic cells (see for example dependent claim 94 which recites that the transplant acceptance inducing cell is obtained from the blood of the subject to be treated).

Applicants statement that a terminal disclaimer will be considered upon indication of allowable subject matter is acknowledged.

9. The following are new grounds of rejection necessitated by Applicant's amendment.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 98 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 98 recites the limitation "said lymphocytes and granulocytes" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim, or in claims 51-52 or 89, from which it depends.

11. Claim 105 is rejected under 35 U.S.C. 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A method wherein transplant acceptance-inducing cells are administered to a subject "10 days following" a transplant (Claim 105)

Applicant indicates that support for claim 105 can be found on page 48 of the specification.

A review of the specification fails to reveal support for the new limitations.

The specification at page 48 discloses a specific example of administering the cells on days 7 and 10 post-transplantation. However, at page 23 the specification discloses that in the case of post-transplant cell administration, the period between transplant and the single administration of the cells should not be longer than 7 days. The specific example is consistent with the teachings of page 23, since it involves administering more than one dose, with the first dose falling within the first 7 days after transplantation. However, the instant claim recites that the cells are administered on day 7 **or** day 10 after transplantation. This encompasses administering a dose of cells on day 10 alone. However, it is apparent that the instant specification did not contemplate administration on day 10 alone, since the specification on page 23 specifically indicates that a single administration of cells should not be administered more than 7 days after transplantation. Thus, the scope of the claims extends beyond what is disclosed by the instant specification.

12. No claim is allowed. Claims 51-52, 74-77, and 84-106 are free of the prior art.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy E. Juedes, whose telephone number is 571-272-4471. The examiner can normally be reached on 7am to 3:30pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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